

OPERATING SUMMARY

TOWNSHIP OF

MOORE
(CORUNNA)

WATER POLLUTION CONTROL PLANT

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LABORATORY & RESEARCH DIVISION
MINISTRY OF THE ENVIRONMENT

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MOORE TWP. - CORUNNA
WATER POLLUTION CONTROL PLANT

operated for
THE TOWNSHIP OF MOORE
by the
MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

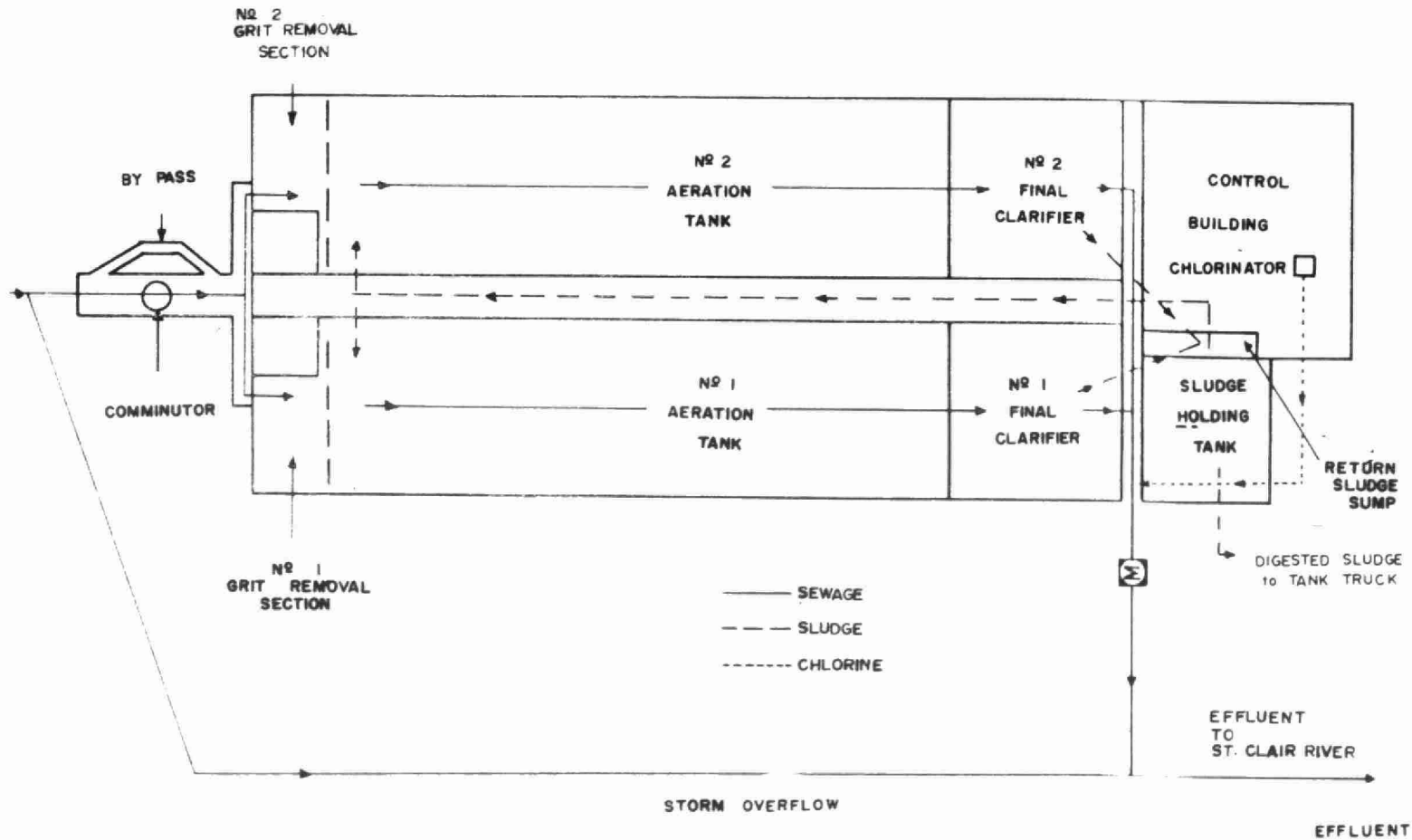
prepared by
Plant Performance Unit
TECHNICAL SERVICES BRANCH
T. Cross, Director

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MOORE TOWNSHIP (CORUNNA) WATER POLLUTION CONTROL PLANT



DESIGN DATA

PROJECT Moore Twp. (Corunna)
WPCP

PROJECT NO. 2-0088-61

TREATMENT Extended Aeration

DESIGN FLOW 0.32 mgd

DESIGN POPULATION 4,000

BOD - Raw Sewage 150 mg/l
- Removal 90-95%

SS - Raw Sewage 150 mg/l
- Removal 90-95%

PRETREATMENT

Comminution

Type: Worthington comminutor
Size: One Model 15-C-4

Grit Removal

Type: C.P. Aer-Degritter with air lift
Size: 3780 gal
Retention: 17 min

SECONDARY TREATMENT

Aeration Tanks

Type: Diffused air, Single pass
Size: Two 84' x 17' x 14.25' (avg)
(40,698 cu ft or 254,000 gal)
Retention: 24.0 hours

Air Supply

Type: Sutorbilt
Size: Two 1000 cfm

Diffusers

Type: C.P. Spargers
Spacing: 22 per tank @ 20" c-c

Secondary Sedimentation

Type: Dorr
Size: Two 22' x 22' x 12 $\frac{1}{2}$ ' swd
(75,300 gal)
Retention: 5.7 hours
Loading: Surface, 330 gal/ft²/day
Weir, 2,350 gal/ft/day

CHLORINATION

Type: W & T, Manual
Size: One 100 lb/day

Chlorine Contact Chamber

- in outfall

OUTFALL

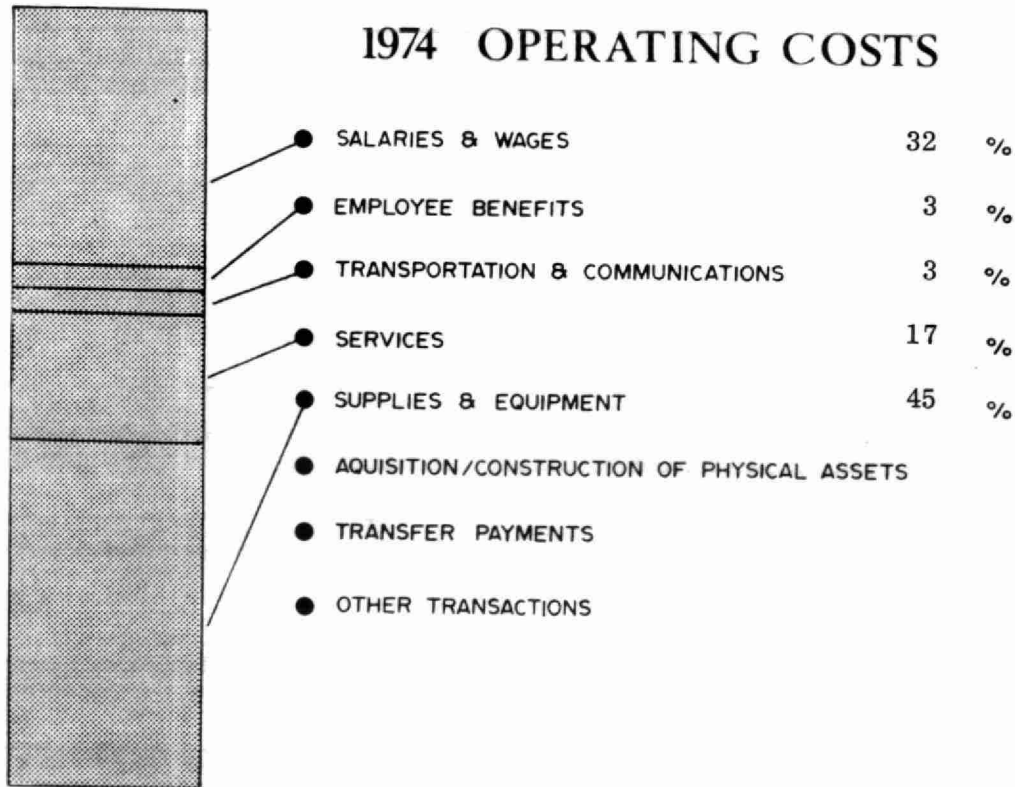
196' of 48" dia corrugated pipe to
Clair River

SLUDGE HANDLING

Type: Sludge holding tank (decanted)
Size: One 17' x 17' x 15' (23,000 gal
@ 12.8' depth)

ANNUAL COSTS

1974 OPERATING COSTS



YEARLY OPERATING COSTS

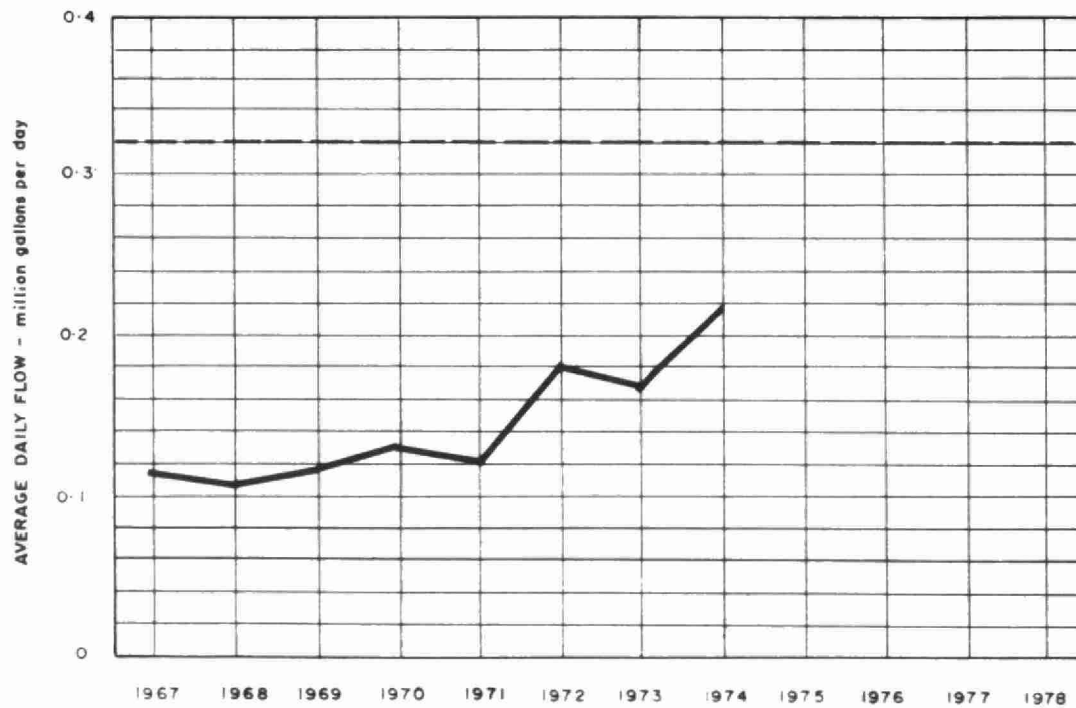
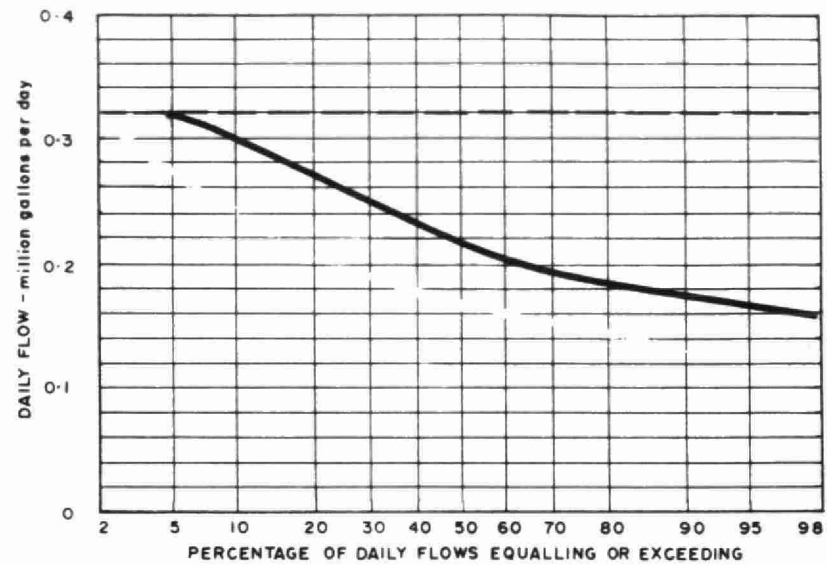
YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS	
			\$/M.G.	¢/lb BOD
1969	44.8	16,333	364	22
1970	46.3	18,530	401	27
1971	46.0	20,574	447	37
1972	65.7	21,434	319	24
1973	63.6	33,153	520	34
1974	79.2	39,333	496	44

OPERATING EXPENDITURES

Regular Staff	\$ 12,489	\$
Casual (Unclassified) Staff	-	
TOTAL SALARIES AND WAGES		12,489
TOTAL EMPLOYEE BENEFITS		1,324
TOTAL TRANSPORTATION AND COMMUNICATIONS		1,109
Insurance	1,030	
Sludge Haulage	4,750	
Repairs and Maintenance	876	
Other Services	113	
TOTAL SERVICES		6,769
Machinery and Equipment	8,329	
Chemicals	2,141	
Utilities	6,242	
Other Supplies and Equipment	930	
TOTAL SUPPLIES AND EQUIPMENT		17,642
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		-
TOTAL TRANSFER PAYMENTS		-
OTHER TRANSACTIONS		-
GRAND TOTAL	GRAND TOTAL	\$ 39,333

PROCESS DATA

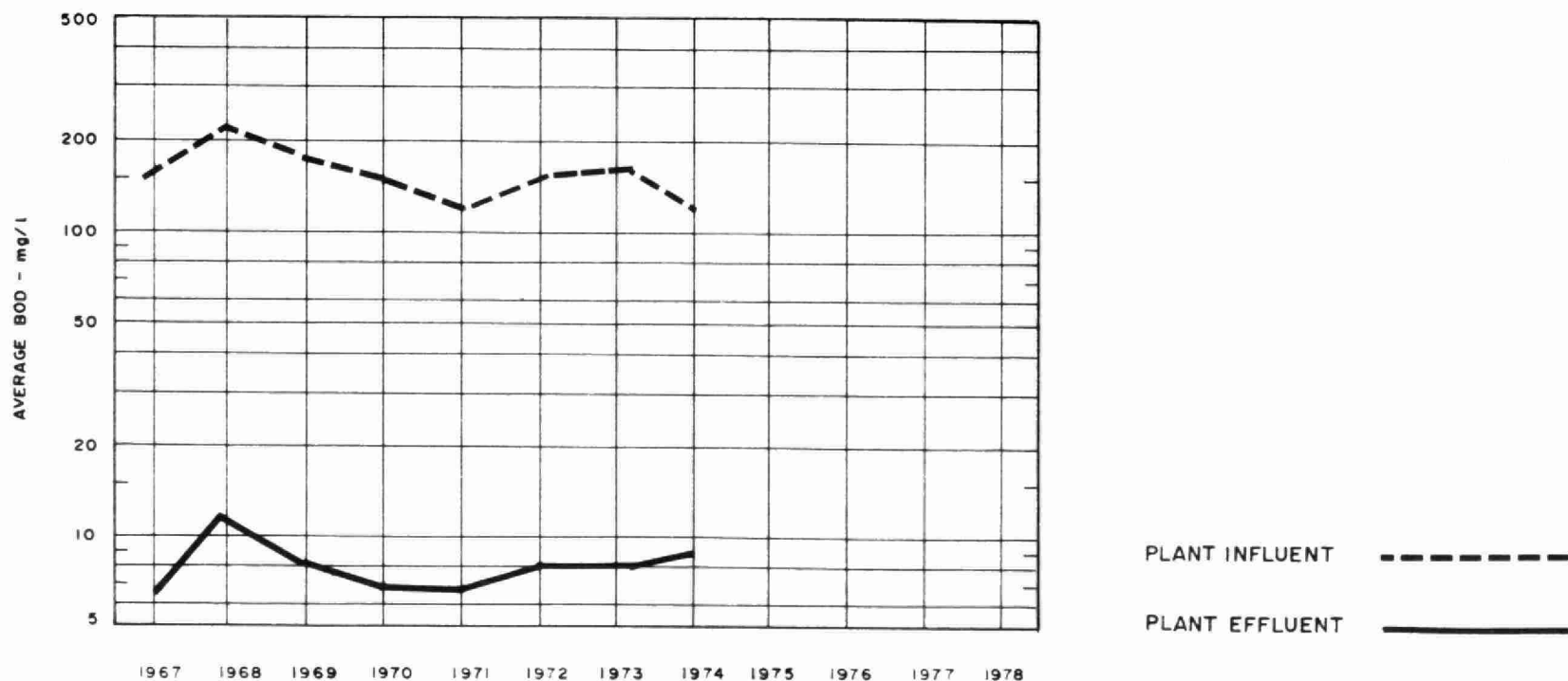
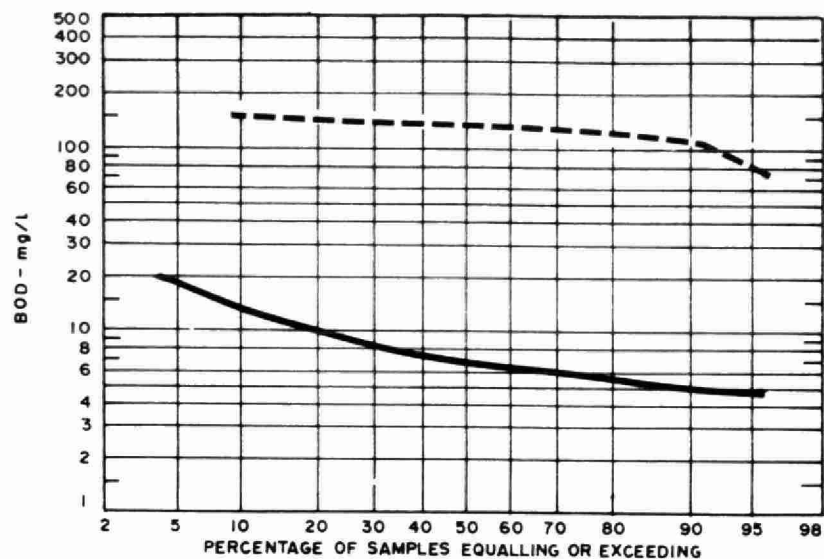
FLOWS



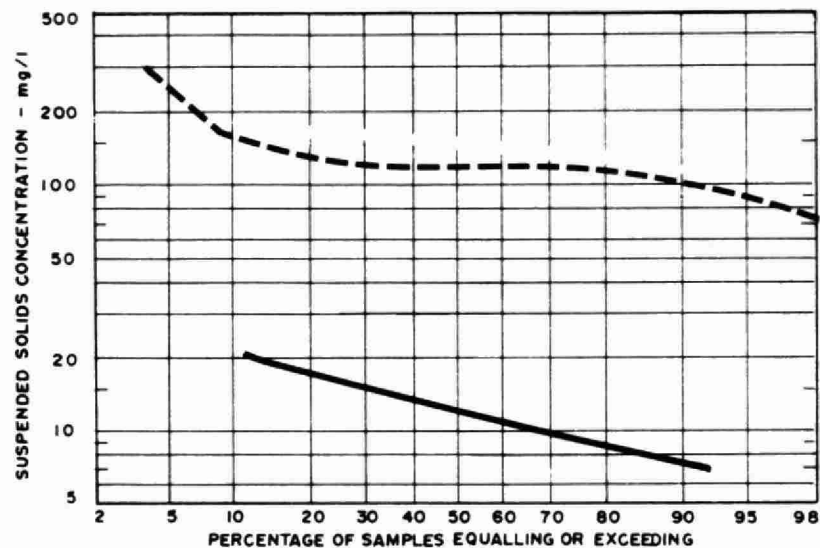
PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW million gallons	AVERAGE DAY mil. gal	MAXIMUM DAY mgd	INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l P	EFFLUENT mg/l P
						%	10 ³ pounds			%	10 ³ pounds		
JAN	7.45	.24	.60	109	9	92	7	204	14	93	14	7.6	1.1
FEB	5.73	.20	.35	122	11	91	6	121	11	91	6	7.8	.7
MAR	7.18	.23	.40	132	8	94	9	128	12	91	8	9.0	1.0
APR	6.89	.23	.30	152	10	93	10	207	10	95	14	12.0	.8
MAY	7.27	.23	.35	114	8	93	8	126	11	91	8		
JUNE	5.92	.20	.24	110	13	88	6	129	10	92	7	4.8	1.3
JULY	5.80	.19	.24	117	8	93	6	128	11	91	7		
AUG	5.93	.19	.24	119	9	92	6	113	9	92	6	7.2	1.4
SEPT	6.20	.21	.23	120	7	94	7	120	9	93	7		
OCT	6.46	.21	.23	125	8	94	7	126	10	92	7		
NOV	6.67	.22	.27	135	7	95	8	128	10	92	8		
DEC	7.74	.25	.29	136	8	94	10	132	11	92	9	7.0	1.0
TOTAL	79.24	-	-	-	-	-	90	-	-	-	106	-	-
AVG.		.22	MAXIMUM .60	123	9	93	7	145	11	92	9	7.7	1.0
No. of Samples	-	-	-	74	73	-	-	74	73	-	-	33	33

BIOCHEMICAL OXYGEN DEMAND

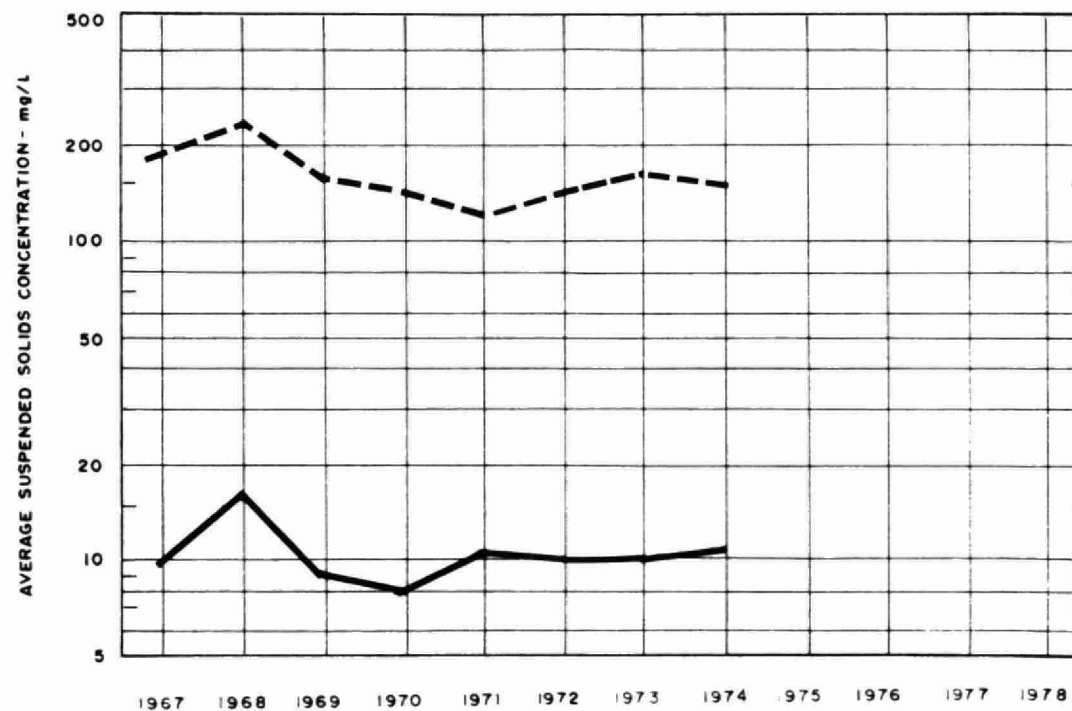


SUSPENDED SOLIDS

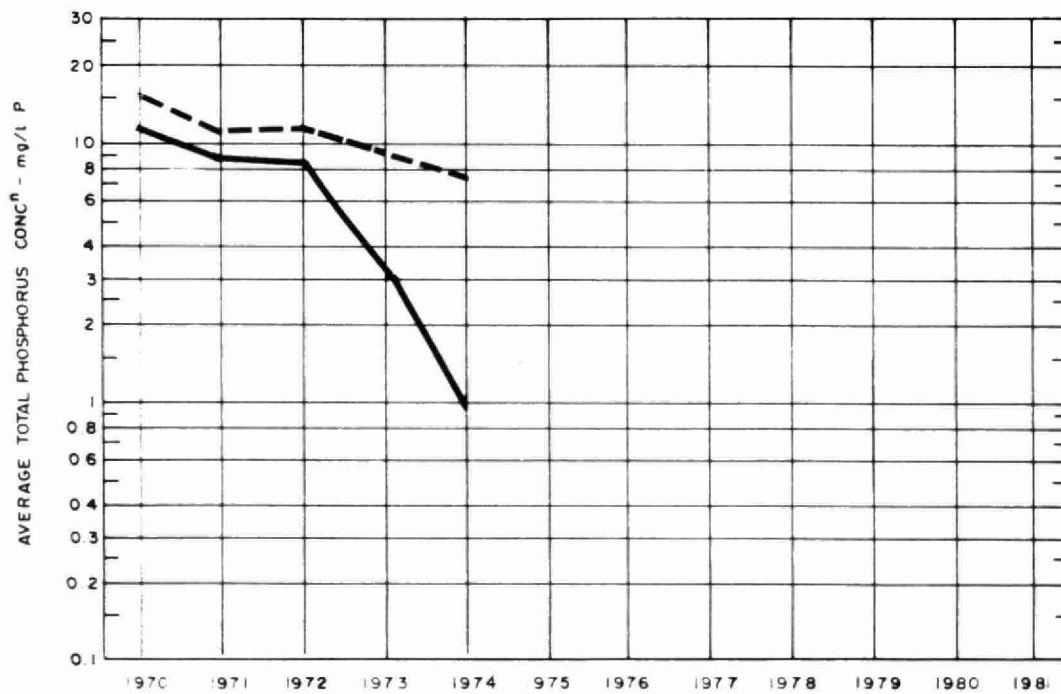
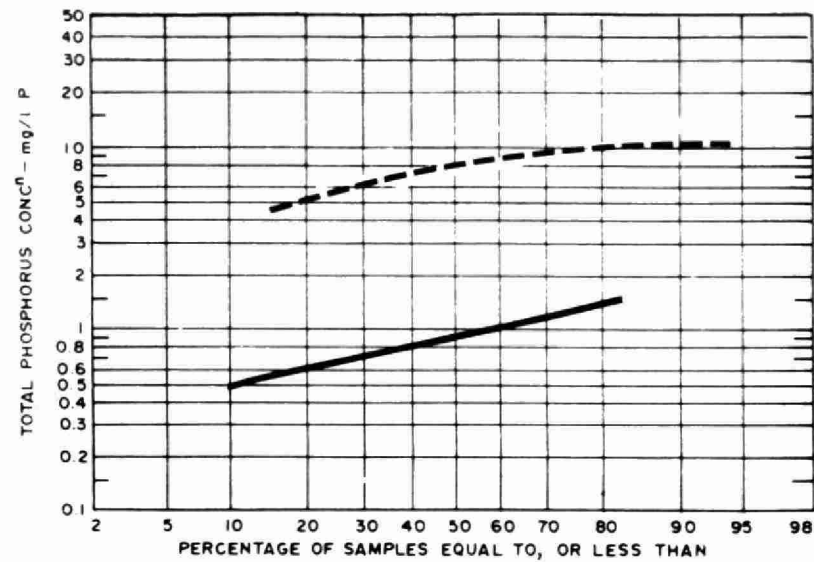


PLANT INFLUENT - - - - -

PLANT EFFLUENT —————



PHOSPHORUS



PLANT INFLUENT - - - - -
PLANT EFFLUENT —————

TREATMENT DATA

MONTH	GRIT	CHLORINATION		AERATION			WASTE SLUDGE			AEROBIC DIGESTER			
	QUANTITY REMOVED	Cl ₂ USED	AVG. DOSAGE	MLSS. CONC	F/M	AIR USED	QUANTITY	SUSPENDED SOLIDS	VOL. SOLIDS	QUANTITY REMOVED	SUSPENDED SOLIDS	VOL. SOLIDS	AMOUNT HAULED
	cubic feet	pounds	mg/l	mg/l	day ⁻¹	$\frac{1000 \text{ ft}^3}{\text{lb BOD}}$	$\frac{10^3}{10^3}$ gallons	mg/l	%	$\frac{10^3}{10^3}$ gallons	mg/l	%	cubic yards
JAN	16	310	4.2	4600	.04	6.0	95.0	6600	67	21.0	.7	56	124
FEB	16	280	4.9	4500	.04	6.5	132.0	8900	56	0			0
MAR	20	310	4.3	4300	.06	5.0	64.0	8000	54	15.2	1.9	59	90
APR	19	300	4.3	4600	.06	4.4	80.0	8300	58	28.6	3.4	58	170
MAY	18	310	4.3	5600	.04	5.9	35.0			9.0	2.2	59	54
JUNE	16	300	5.1	6200	.03	7.4	40.0	9000	54	96.0	3.7	52	570
JULY	18	310	5.3	5100	.02	13.9	40.0			13.5	4.3	54	80
AUG	18	310	5.2	4700	.02	13.8	45.0	6100	48	21.9	3.8	59	130
SEPT	16	300	4.8	4700	.02	12.1	50.0			13.5	4.6	49	80
OCT.	18	310	4.8	4500	.02	11.7	70.0			35.1	4.6	52	209
NOV	18	300	4.5	4700	.02	10.2	50.0			20.2	4.6	54	120
DEC	17	310	4.0	4600	.03	9.0	70.0	9700	57	28.7	3.6	55	170
TOTAL	210	3650	-	-	-	-	771.0	-	-	302.7	-	-	1797
AVG.	2.6 cu. ft/mil gal		4.6	4800	.03	8.8	64	8100	56	25.2	3.4	55	150

Date Due

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